

Appl. No. 10/662,619  
Amdt. dated December 4, 2007  
Response to Office Action dated June 4, 2007

### **REMARK/ARGUMENTS**

Applicants respectfully request reconsideration of this application in view of the following comments.

In the Office Action mailed June 4, 2007, claims 1-41, 48, 50-53, 55-57, 63, and 64 were examined and rejected as follows:

- Claims 1-22, 24-38, 40, 41, 48, 51, 53, 56, 57, 63, and 64 were rejected under 35 U.S.C. § 103(a), as allegedly obvious over U.S. Patent Appl. Publ. No. 2001/0031669 to Ohama (the "Ohama publication").
- Claims 23 and 39 were rejected under 35 U.S.C. § 103(a), as allegedly obvious over the Ohama publication in view of U.S. Patent Appl. Publ. No. 2001/0000506 to Sullivan (the "Sullivan publication").

Applicants believe these claims are allowable for the reasons discussed below.

#### **The Rejection of Claims Under 35 U.S.C. § 103(a)**

As mentioned above, claims 11-22, 24-38, 40, 41, 48, 51, 53, 56, 57, 63, and 64 were rejected under 35 U.S.C. § 103(a), as allegedly obvious over the Ohama publication and, in the case of claims 23 and 39, further in view of the Sullivan publication.

In her comments supporting the rejection of independent claims 1, 25, and 41, the Examiner asserted that the Ohama publication discloses all of features recited in these claims, including the use of pentachlorothiophenol (an organic sulfur compound) as a peptizer. The Examiner admitted that the Ohama publication only broadly discloses the use of pentachlorothiophenols, and does not disclose specific types such as metal salts or nonmetal salts. However, the Examiner stated that for purposes of the invention, the metal salts and nonmetal salts appear to be equivalents. The Examiner requested Applicants to provide scientific data showing the difference(s) between the golf balls comprising the metal salts versus golf balls comprising nonmetal salts. Applicants respectfully disagree with the Examiner's assertions.

As admitted by the Examiner, the Ohama publication fails to disclose the use of a peptizer including a non-metal salt of an organic sulfur compound. Additionally, contrary to the

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Examiner's assertions, metal salts and nonmetal salts are not equivalents for purposes of this invention for two main reasons.

First, it is well known that a non-metal salt of pentachlorothiophenols ("PCTP"), such as  $\text{NH}_4^+$ -(PCTP), typically has a much lower melting point than the corresponding metal salt of PCTP, such as  $\text{Zn}-(\text{PCTP})_2$ . (Declaration of Hyun Jin Kim Under 37 C.F.R. § 1.132 ("Kim Decl."), ¶ 15.) In fact, the melting point of  $\text{NH}_4^+$ -(PCTP) is 175~180°C, whereas  $\text{Zn}-(\text{PCTP})_2$  has been shown not to melt (but rather decomposes) at temperatures above 250°C. (*Id.*) Because the melting point of a non-metal salt of PCTP is close to the temperature at which curing takes place, the non-metal salts of PCTP, such as  $\text{NH}_4^+$ -(PCTP), will melt during the cure process, whereas metal salts of PCTP, such as  $\text{Zn}-(\text{PCTP})_2$ , remain in a powder state during the cure process. (*Id.*, ¶ 16.) It is known that mixing a molten chemical with a rubber compound occurs much more efficiently than with a powder, and rubber compounded with a non-metal salt (such as  $\text{NH}_4^+$ -(PCTP)) has a lower compound Mooney viscosity than a corresponding rubber formulated with an identical amount of a metal salt (such as  $\text{Zn}-(\text{PCTP})_2$ ). (*Id.*, ¶ 17.)

The improved mixing efficiency for non-metal salts results in lower compound viscosity and, thus, facilitates the mixing of all the components of the rubber formulation, including those of the crosslinking agent and any co-crosslinking agent and core specific gravity adjusters such as zinc salts (including zinc oxide). (Kim Decl., ¶ 18.) This in turn allows greater flexibility in designing the components of a rubber formulation both in terms of the compounds included and their relative amounts. (*Id.*) This in turn allows additional control and optimization of important golf ball properties such core/ball weight, core/ball compression, core/ball COR and core/ball impact durability. (*Id.*)

Second, the reaction byproduct of a  $\text{Zn}-(\text{PCTP})_2$  in the curing process is in the form of a Zn-salt. (Kim Decl., ¶ 19.) Metal salts such as zinc oxide are used in the core rubber formulations to adjust the core specific gravity in order to change the performance of the ball. (*Id.*) In contrast, non-metal salts of PCTP do not have such metal salt by-products which adjust the specific gravity of a golf ball. Therefore, the use of non-metal salts of PCTP does not result in the creation of reaction byproducts that affect the performance of golf balls. (*Id.*)

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For these reasons, the use of nonmetal salts of thiophenols and metal salts of thiophenols are not equivalents or interchangeable. Therefore, the § 103(a) rejection of independent claims 1, 25, and 41 is improper and should be withdrawn.

Claims 2-24, 48, and 50-52 all depend from independent claim 1, and claims 26-40, 53, 55-57, 63, and 64 depend from independent claim 25. These dependent claims all add features that more particularly define the invention and thus further distinguish over the cited Ohama and Sullivan references. These dependent claims, likewise, should be allowed.

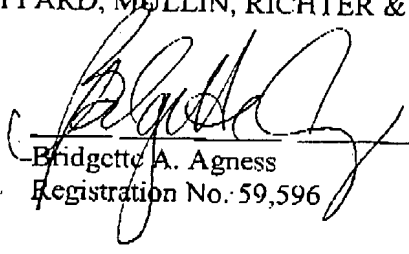
### Conclusion

This application should now be in condition for a favorable action. Allowance of the application is respectfully requested. If the Examiner believes that a telephone conference with Applicants' undersigned attorney of record might expedite prosecution of the application, she is invited to call at the telephone number indicated below.

Respectfully submitted,

SHEPPARD, MULLIN, RICHTER & HAMPTON LLP

By:

  
Bridgette A. Agness  
Registration No. 59,596

Sheppard, Mullin, Richter & Hampton LLP  
333 South Hope Street, 48th Floor  
Los Angeles, California 90071  
Telephone: (213) 620-1780  
Facsimile: (213) 620-1398